What is claimed is:

1. A medical pump for use with a cassette, comprising:
a main chassis having a fixed seat thereon;
a main carriage having an opening therein adapted to receive a cassette, the opening forming a carriage footing which restricts movement of the cassette within the main carriage, the main carriage being movable from an open position horizontally inwardly with respect to the main chassis to a closed position to engage the cassette to the fixed seat; and
an actuator connected to the main carriage to automatically move the main carriage from the open position to the closed position.

2. The medical pump of claim 1, wherein the main carriage floats with respect to the main chassis allowing the fixed seat to dictate the position of both the main carriage and cassette when the main carriage is in the closed position.

3. The medical pump of claim 1, wherein the fixed seat establishes the vertical and lateral position of the cassette, and the fixed seat and main carriage dictate the inward position of the cassette by pressing the cassette and the fixed seat against a common surface of the carriage.

4. The medical pump of claim 1, further including an orientation sensor located on the main chassis for determining whether a cassette has been correctly inserted into the main carriage.

5. The medical pump of claim 1, further including a position sensor for determining the inward position of the main carriage.

6. The medical pump of claim 5, further including a processing unit connected to the position sensor to receive position data from the position sensor, the processing unit also being connected to the actuator to receive electrical load data from the actuator, wherein the processing unit detects jam conditions in the medical pump by processing the position data and the electrical load data.

7. The medical pump of claim 1, further including an air sensor device for determining the air content of fluid leaving cassette tubing, wherein air sensor device has a coordination means for associating the air sensor device with the cassette tubing when the main carriage is moved into the closed position and for disassociating the air sensor device with the cassette tubing when the main carriage is moved into the open position.

8. The medical pump of claim 7, wherein the coordination means is motorized.

9. The medical pump of claim 1, wherein the actuator is connected to the main carriage by a rear carriage assembly, the rear carriage assembly including a manual release element, once the manual release element is actuated by a user the rear carriage assembly disengages the actuator from the main carriage.

10. The medical pump of claim 9, wherein the actuator cannot be reengaged to the main carriage by manually moving the main carriage horizontally inwardly with respect to the main chassis.

11. The medical pump of claim 1, further comprising an illumination element for illuminating the main carriage when the carriage is in the open position.

12. The medical pump of claim 1, further comprising an indicator window positioned above the main chassis, the indicator window including a multicolor indicator element for illuminating the indicator window.

13. A medical pump for use with a cassette having a pumping chamber, comprising:

a main chassis having a fixed seat thereon;

a main carriage having an opening therein adapted to receive a cassette, the opening forming a carriage footing which restricts movement of the cassette within the main carriage, the main carriage being movable from an open position horizontally inwardly with respect to the main chassis to a closed position to engage the cassette to the fixed seat; and

wherein the main carriage floats with respect to the main chassis allowing the fixed seat to dictate the position of both the main carriage and cassette when the main carriage is in the closed position.

14. The medical pump of claim 13, wherein the fixed seat establishes the vertical and lateral position of the cassette, and the fixed seat and main carriage dictate the inward position of the cassette by pressing the cassette and the fixed seat against a common surface of the carriage.

15. The medical pump of claim 13, wherein the fixed seat of the main chassis is formed by finger elements extending horizontally from a vertical base surface.

16. The medical pump of claim 15, wherein the main carriage has side walls positioned on two lateral sides of the cassette, the side walls having finger grooves therein for receiving the finger elements of the main chassis, the finger elements being received between the side

walls and the cassette.

17. The medical pump of claim 15, wherein the finger elements have a finger base attached to the vertical base surface, a finger tip extending horizontally from the finger base toward the main carriage, and an end stop ledge formed between the finger base and the finger tip; the finger tip being tapered with a narrowed portion facing the main carriage.

18. The medical pump of claim 17, wherein the finger tips dictate the vertical and lateral position of the cassette, and the end stop ledge and an outer lip of main carriage dictate the inward position of the cassette by pressing the cassette and the fixed seat against a common surface of the carriage.

19. A medical pump for use with a cassette, comprising:

a main chassis having a fixed seat thereon;

a main carriage having an opening therein adapted to receive a cassette, the opening forming a carriage footing which restricts movement of the cassette within the main carriage, the main carriage being movable from an open position horizontally inwardly with respect to the main chassis to a closed position to engage the cassette to the fixed seat; and

a position sensor being operatively associated with the main carriage for tracking the inward position of the main carriage from the open position to the closed position.

20. The medical pump of claim 19, further including an actuator connected to the main carriage to automatically move the main carriage, and a processing unit connected to the position sensor to receive position data from the position sensor; the processing unit also being connected to the actuator to receive electrical load data from the actuator, wherein the processing unit detects jam

conditions in the medical pump by processing the position data and the electrical load data.

22. A medical pump for use with a cassette, comprising:
a main chassis having a fixed seat thereon;
a main carriage having an opening therein adapted to receive a cassette, the opening forming a carriage footing which restricts movement of the cassette within the main carriage, the main carriage being movable from an open position horizontally inwardly with respect to the main chassis to a closed position to engage the cassette to the fixed seat; and
a rear carriage assembly connected to the main carriage, the rear carriage assembly including a manual release element operatively associated with the main carriage so that once the manual release element is actuated by a user the main carriage is moved to the open position.

23. The medical pump of claim 22, further including an actuator connected to the main carriage to automatically move the main carriage, wherein the actuator is connected to the main carriage by the rear carriage assembly, once the manual release element is actuated by a user the rear carriage assembly disengages the actuator from the main carriage.

24. The medical pump of claim 23, wherein the actuator cannot be reengaged to the main carriage by manually moving the main carriage horizontally inwardly with respect to the main chassis.

25. The medical pump of claim 22, wherein the manual release element is located remotely from the main carriage.

26. A medical pump for use with a cassette, comprising:
a main chassis having a fixed seat thereon;

a main carriage having an opening therein adapted to receive a cassette, the opening forming a carriage footing which restricts movement of the cassette within the main carriage, the main carriage being movable from an open position horizontally inwardly with respect to the main chassis to a closed position to engage the cassette to the fixed seat; and

an indicator window positioned above the main chassis, the indicator window including an outer surface and a multicolor indicator element for illuminating the outer surface.

27. The medical pump of claim 26, wherein the indicator window includes an illumination element for illuminating the main carriage when the carriage is in the open position.

28. The medical pump of claim 26, wherein the outer surface includes a groove, the groove adapted to permit an inlet tube attached to an inlet of the cassette to be threaded over the groove when the main carriage is in the closed position.

29. A medical pump for use with a fluid delivery device, comprising:

a main chassis having a fixed seat thereon;

a main carriage having an opening therein adapted to receive a fluid delivery device, the opening forming a carriage footing which restricts movement of the fluid delivery device within the main carriage, the main carriage being movable from an open position inwardly with respect to the main chassis to a closed position to engage the fluid delivery device to the fixed seat;

an actuator connected to the main carriage to automatically move the main carriage from the open position to the closed position;

an air sensor device for determining the air content of fluid leaving tubing associated with the fluid delivery device, wherein air sensor device has a coordination means for associating the air sensor device with the tubing when the main carriage is moved

into the closed position and for disassociating the air sensor device with the tubing when the main carriage is moved into the open position.

30. The medical pump of claim 29, wherein the coordination means is motorized.

31. A medical pump for use with a fluid delivery device, comprising:
a main chassis having a fixed seat thereon;
a main carriage having an opening therein adapted to receive a fluid delivery device, the opening forming a carriage footing which restricts movement of the fluid delivery device within the main carriage, the main carriage being movable from an open position inwardly with respect to the main chassis to a closed position to engage the fluid delivery device to the fixed seat; and
an actuator connected to the main carriage to automatically move the main carriage from the open position to the closed position.